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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,419	02/10/2004	Toshichika Takei	248795US2	9960
22850	7590	11/21/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER LUU, CHUONG A	
			ART UNIT 2818	PAPER NUMBER

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

E/C

<b>Office Action Summary</b>	<b>Application No.</b> 10/774,419	<b>Applicant(s)</b> TAKEI ET AL.	
	<b>Examiner</b> Chuong A. Luu	<b>Art Unit</b> 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/10/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-12 filed on September 02, 2005 is acknowledged. The traversal is on the ground(s) that the restriction and Election requirement because the claims have not carried forward its burden of proof to establish that searching and examining both of the noted sets of claims would be an undue burden. Hence, it is respectfully requested that the restriction requirement be withdrawn and that claims 1-14 be considered on the merits. This is not found persuasive because Group II, claims 13-14, drawn to a method of using apparatus was determined in Election/Restriction and a search in class 365 subclass 553 would be required.

The requirement is still deemed proper and is therefore made FINAL.

## **PRIOR ART REJECTIONS**

### **Statutory Basis**

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2818

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### **The Rejections**

Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Takano et al. (JP2002-100562).

Takano discloses a heat treatment system of substrate with

(1) a heating plate (3) for heating the mask substrate (4);

heating means (5) for heating the heating plate (3);

a frame member being detachably disposed to the heating plate so that the frame member faces a side surface of the mask substrate placed on the heating plate when the frame member is attached to the heating plate (see Figure 6);

(2) wherein a clearance is formed between the frame member and the heating plate when the frame member is attached to the heating plate (see Figure 6);

(3) wherein the frame member has a surface opposite to the side surface of the mask substrate placed on the heating plate, and wherein the surface is curved in a concave shape (see Figure 6);

(4) wherein the frame member has a surface opposite to the side surface of the mask placed on the heating plate. wherein the surface is curved in a convex shape (see Figure 6);

(5) wherein the surface is a mirror surface (see Figure 6);

(6) wherein the surface is a rough surface (see Figure 6);

(7) further comprising: a driving mechanism for moving the frame member so

that a distance between the frame member and the side surface of the mask substrate placed on the heating plate varies (see Figure 6);

(8) further comprising: means for detecting a temperature of the mask substrate; a controlling portion for controlling the driving mechanism in accordance with the detected temperature (see Figure 6);

(9) wherein the controlling portion determines whether of the mask substrate is in a the temperature increasing state or in a constant state in accordance with the detected temperature, controls the driving mechanism so that the distance between the frame member and the side surface of the mask substrate placed on the heating plate becomes a first distance when the wherein the controlling portion temperature of the mask substrate is in the increasing state and a second distance smaller than the first distance when the temperature of the mask substrate is in the constant state (see Figure 6);

(10) wherein the frame member is divided in a peripheral direction of the mask substrate placed on the heating plate (see Figure 6);

(11) wherein the frame member has: a heating mechanism for heating the frame member (see Figure 6).

Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Sudani et al. (U.S. 5,158,828).

Sudani discloses an improved carbon/metal composite with

(1) a heating plate (7) for heating the mask substrate;

heating means (7-1) for heating the heating plate (7);

a frame member being detachably disposed to the heating plate so that the frame member faces a side surface of the mask substrate placed on the heating plate when the frame member is attached to the heating plate (see Figure 1);

(2) wherein a clearance is formed between the frame member and the heating plate when the frame member is attached to the heating plate (see Figure 1);

(3) wherein the frame member has a surface opposite to the side surface of the mask substrate placed on the heating plate, and wherein the surface is curved in a concave shape (see Figure 1);

(4) wherein the frame member has a surface opposite to the side surface of the mask placed on the heating plate. wherein the surface is curved in a convex shape (see Figure 1);

(5) wherein the surface is a mirror surface (see Figure 1);

(6) wherein the surface is a rough surface (see Figure 1);

(7) further comprising: a driving mechanism for moving the frame member so that a distance between the frame member and the side surface of the mask substrate placed on the heating plate varies (see Figure 1);

(8) further comprising: means for detecting a temperature of the mask substrate; a controlling portion for controlling the driving mechanism in accordance with the detected temperature (see Figure 1);

(9) wherein the controlling portion determines whether of the mask substrate is in a the temperature increasing state or in a constant state in accordance with the

Art Unit: 2818

detected temperature, controls the driving mechanism so that the distance between the frame member and the side surface of the mask substrate placed on the heating plate becomes a first distance when the wherein the controlling portion temperature of the mask substrate is in the increasing state and a second distance smaller than the first distance when the temperature of the mask substrate is in the constant state (see Figure 1);

(10) wherein the frame member is divided in a peripheral direction of the mask substrate placed on the heating plate (see Figure 1);

(11) wherein the frame member has: a heating mechanism for heating the frame member (see Figure 1).

## **PRIOR ART REJECTIONS**

### **Statutory Basis**

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

### **The Rejections**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (JP2002-100562).

Takano teaches everything above except for heating a semiconductor wafer having a diameter of 10 inches. However, heating a semiconductor wafer having a diameter of 10 inches being within the range is considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify heating a semiconductor wafer having a diameter of 10 inches of Takano's device within the range as claimed for the purpose of providing for reduced power consumption and increase operational speed, and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. In re Aller, 105 USPQ 233 (see MPEP j 2144.05).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudani et al. (U.S. 5,158,828).

Sudani teaches everything above except for heating a semiconductor wafer having a diameter of 10 inches. However, heating a semiconductor wafer having a diameter of 10 inches being within the range is considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify heating a semiconductor wafer having a diameter of 10 inches of Takano's device within the range as claimed for the purpose of providing for reduced power consumption and increase operational speed, and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the



optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. In re Aller, 105 USPQ 233 (see MPEP j 2144.05).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong A. Luu whose telephone number is (571) 272-1902. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong Anh Luu  
Patent Examiner  
November 04, 2005